

CLAIMS

1. Method for splicing a target nucleic acid molecule with a separate nucleic acid molecule, comprising the step of:

5           contacting said target nucleic acid molecule with a catalytic nucleic acid molecule comprising said separate nucleic acid molecule under conditions in which at least a portion of said separate nucleic acid molecule is spliced with at least a portion of said  
10 target nucleic acid molecule to form a chimeric nucleic acid molecule; wherein said catalytic nucleic acid molecule is not naturally associated with said separate nucleic acid molecule.

2. Method for splicing a target nucleic acid molecule with a separate nucleic molecule, comprising  
15 the step of:

          contacting said target nucleic acid molecule with said separate nucleic acid molecule in the presence of one or more spliceosomes or splicing factors under  
20 conditions in which at least a portion of said separate nucleic acid molecule is spliced with at least a portion of said target nucleic acid molecule to form a chimeric nucleic acid molecule.

3. The method of claim 1, wherein said  
25 catalytic nucleic acid molecule is active to cleave said target nucleic acid molecule and to splice said separate nucleic acid molecule with said target nucleic acid molecule.

4. The method of claim 1, wherein said  
30 catalytic nucleic acid molecule is a group I or group II intron molecule.

5. The method of claim 1 or 2, wherein said contacting is in vitro.

6. The method of claim 1 or 2, wherein said contacting is in vivo.

7. The method of claim 1 or 2, wherein said target nucleic acid is an RNA molecule.

5 8. The method of claim 1 or 2, wherein said separate nucleic acid molecule is an RNA molecule.

9. The method of claim 1 or 2, wherein said target nucleic acid molecule includes a nucleic acid sequence deleterious to the organism in which it is  
10 located and wherein said separate nucleic acid molecule is adapted to correct said defect after splicing with said target nucleic acid molecule.

10. The method of claim 1 or 2, wherein said target nucleic acid molecule is a virus and said  
15 separate nucleic acid molecule encodes a dominant negative allele for said virus.

11. The method of claim 1 or 2, wherein said contacting comprises providing a vector encoding said catalytic nucleic acid molecule comprising said separate  
20 nucleic acid molecule.

12. A catalytic nucleic acid molecule,  
comprising: a separate nucleic acid molecule adapted for splicing with a target nucleic acid molecule, wherein said separate nucleic acid molecule encodes at least a  
25 portion of a protein adapted to be expressed when spliced with said target nucleic acid molecule.